IN THE SPECIFICATION:

Please insert the following paragraph at page 1, line 11:

Cross Reference to Related Application

This application is a continuation of U.S. Patent Application No. 09/561,435, filed Apr. 28, 2000, in the name of Henk J. Bots, now U.S. Patent No. 6,637,007.

Please amend the paragraph at page 3, lines 18 to 20, as follows:

Figure 2 shows a block diagram of a system for transmitting a data pointer 114 pointing to ~~containing~~ the checksum array 115 from an application level through a data transfer protocol to a network level.

Please amend the paragraph at page 7, lines 4 to 16, as follows (in addition to the indicated additions and deletions, the paragraph has been broken into four smaller paragraphs):

As stated above, a block of ~~the~~ data held in memory is divided into fixed sized zones, a checksum is calculated for each zone, and an array 115 is created and stored in memory which contains the ~~said~~ checksums. The checksums can be associated with each zone as

represented by the arrows from zones in memory 111 to checksum array 115. During the transmission process, the data transfer protocol divides the data into portions (i.e., partial blocks) such as ~~data chunks~~ chunk 117. ~~and each~~ Each chunk is transmitted via the transmission layer. The data transfer protocol will not necessarily divide the data according to zones and may split one or more zones ~~a zone~~.

In order to calculate the checksum for the all the data being sent with each chunk, the data transfer protocol combines checksums for zones in the chunk and checksum(s) for the portion(s) of any partial zone(s) in the chunk to determine a chunk checksum. In this way, the data transfer protocol calculates a checksum for the chunk of data being sent without using the CPU cycles required to read the entire chunk of data.

For example, in Figure 3, chunk checksum 118 for chunk 117 is calculated by combining zone checksums 119a for zones in the chunk and partial zone checksums 119b for the partial zones in the chunk. The partial zone checksums also can be associated with the checksum array, as represented by the arrows from partial zones in memory 111 to checksum array 115. The chunk checksum can be stored or transmitted.

In one embodiment, the data transfer protocol takes the shorter of any divided zone and calculates the checksum for that portion. It then adds that checksum to the checksums for the other zones included within that chunk by accessing the checksum array 115. ~~In this way,~~

the data transfer protocol calculates a checksum for the chunk of data being sent without using the CPU cycles required to read the entire chunk of data.

Please amend the paragraphs at page 8, lines 8 to 13, as follows:

At a step 415, the data and checksum array 115 are accessed by the network and transmission layers, the data is broken into chunks zones and a checksum is calculated for each chunk to be transmitted using the checksum array 115.

At a step 416, the chunk of data to be transmitted and its checksum are is sent from memory to the network interface card or some other external device.

IN THE DRAWINGS:

Replacement figures 1 to 4 accompany this response. The changes made in these replacement figures are as follows:

Figure 1: The replacement figure is a formal drawing that replaces the drawing filed with the application.

Figure 2: The replacement figure is a formal drawing that replaces the drawing filed with the application.

Figure 3: The replacement figure is a formal drawing that replaces the drawing filed with the application. In addition, Figure 3 has been amended to include chunk checksum 118. The Figure also has been amended to show that the chunk (i.e., partial block or portion of the block) can include plural partial zones. Furthermore, Figure 3 has been amended to show that the partial zone checksums can be associated with checksum array 115.

Figure 4: This replacement figure is a formal drawing that replaces the drawing filed with the application. In addition, "chunk to be" in step 415 has been changed to "chunk to be transmitted." Also, step 416 has been amended to recite that a chunk of data and its checksum are sent to a network interface card or to another external device.

The amendments to the drawings are not believed by Applicant to constitute new matter at least because the amendments are based on the language of the application (including the claims) as originally filed.